



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,230	07/02/2007	Robert James Foulger	41557-236805	1825
26694	7590	06/30/2010		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER CHI, SUBERR L	
			ART UNIT	PAPER NUMBER
			2818	
			MAIL DATE	DELIVERY MODE
			06/30/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,230	<b>Applicant(s)</b> FOULGER ET AL.	
	<b>Examiner</b> SUBERR CHI	<b>Art Unit</b> 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/25/06, 12/19/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election***

1. The previously issued restriction is withdrawn in view of the amended claims.
2. Claims #1, 2, 4-7, 9 are pending in the present office action.

### ***IDS***

3. The IDS document(s) filed on 09/25/2006 and 12/19/2007 have been considered. Copies of the PTO-1449 documents are herewith enclosed with this office action.

### ***Claim Rejections – 35 USC § 112, 2<sup>nd</sup> ¶***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim(s) 1, 2, 4-7, 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2818

4. As to claims 1 and 2, there is a lack of antecedent basis for the limitation of “**the** tab” and “or tabs” (plural). Only a singular **support** tab was previously recited.

5. As to claim 4, it is unclear as to whether the limitation of “*including means to break the connection or connections by passing a current therethrough*” is a means plus function limitation that invokes 35 U.S.C. 112, sixth paragraph.

It is unclear because the exact phrase of “means for” + functional language is not used. Furthermore, assuming *arguendo* that the exact phrase of “means for” + functional language were used, then the claim limitation appears to recite acts (**by passing a current therethrough**) for achieving the specified function (**of breaking a connection or connections**).

If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

(a) Amend the claim to include the phrase “means for” or “step for” in accordance with these guidelines: the phrase “means for” or “step for” must be modified by functional language and the phrase must **not** be modified by sufficient structure, material, or acts for performing the claimed function; or

(b) Show that the claim limitation is written as a function to be performed and the claim does **not** recite sufficient structure, material, or acts for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP § 2181.

**The Examiner assumes the limitation of “including means to break the connection or connections by passing a current therethrough” is NOT a “means for” limitation. The limitation is moot until Applicants amend the claim.**

6. Additionally as to claim 4, there is a lack of antecedent basis for the limitations of “the connection or connections”. The limitation of “the connection or connections” is not positively recited, because it is part of the “capable of ...” limitation which is not accorded patentable weight.

### ***Claim Rejections - 35 USC § 103(a)***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 103 that form the basis for the rejections under this section made in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims #1 and 2 are rejected under 35 USC 103(a) as being obvious over Ohkubo et al (US Patent #5,418,181, as cited in the IDS hereafter Ohkubo) in view of Ho et al (US Patent #6,380,059, hereafter Ho).**

7. As to claim 1, Ohkubo teaches:

Art Unit: 2818

- a. *Manufacturing an array of said discrete elements (Fig. 11, disclosed as [9] but not shown in Fig. 11) wherein each element is attached to a supporting structure (Fig. 9D, [71]) and/or at least one other element by a support tab (Fig. 9D, [5]).*
- b. *And wherein the tab or tabs are electrically conductive (col. 6, lines 46-48). Ohkubo teaches gold tabs.*

However, Ohkubo does not teach selectively removing or breaking the tab or tabs supporting a particular element or particular elements, and wherein the tab or tabs are removed or broken by passing a current therethrough.

On the other hand, Ho teaches electrically conductive support tabs (**Ho: Fig. 2A, [41]**) which may be broken (**Ho: Fig. 2B**) by passing a current therethrough (**Ho: col. 3, lines 57-63**). Ho's fuse structures [41] correspond to Ohkubo's support tabs, and Ho's fuse structures [41] are selectively removed.

It would have been obvious to one of ordinary skill in the art to combine the overall method of forming an array of discrete elements with support tab-fuse type structures as taught by Ohkubo, with the method of selectively removing the tabs via current as taught by Ho, because both are from the same field and endeavor, and both are directed to fuse-type structures.

Furthermore, the breaking of the tab-fuse structures yields the predictable result of facilitating open-circuit testing (**Ho: col. 1, lines 6-14**).

Art Unit: 2818

8. As to claim 2, Ohkubo teaches:

- a. *Manufacturing an array of Gunn diodes (Fig. 11, disclosed as [9] but not shown in Fig. 11; “Brief Description of the Drawings” teaches Gunn Diodes) wherein each Gunn diode is attached to a supporting mesh (Fig. 4, [4]) and/or at least one other Gunn diode by a support tab (Fig. 9D, [5]).* In Fig. 4, the Gunn diode is initially attached to a supporting mesh structure [4].
- b. *And wherein the tab or tabs are electrically conductive (col. 6, lines 46-48).* Ohkubo teaches gold tabs.

However, Ohkubo does not teach selectively removing or breaking the tab or tabs supporting a particular Gunn diode or particular Gunn diodes, and wherein the tab or tabs are removed or broken by passing a current therethrough.

On the other hand, Ho teaches electrically conductive support tabs (**Ho: Fig. 2A, [41]**) which may be broken (**Ho: Fig. 2B**) by passing a current therethrough (**Ho: col. 3, lines 57-63**). Ho's fuse structures [41] correspond to Ohkubo's support tabs, and Ho's fuse structures [41] are selectively removed.

It would have been obvious to one of ordinary skill in the art to combine the overall method of forming an array of discrete elements with support tab-fuse type structures as taught by Ohkubo, with the method of selectively removing the tabs via current as taught by Ho, because both are from the same field and endeavor, and both are directed to fuse-type structures.

Art Unit: 2818

Furthermore, the breaking of the tab-fuse structures yields the predictable result of facilitating open-circuit testing (**Ho: col. 1, lines 6-14**).

### ***Claim Rejections 35 USC § 102(b)***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims #4-6, 7, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyoshi Ryuichi et al (JP Publication #1995-297263, as cited in the IDS, Machine Translation provided, hereafter Ryuichi).**

9. As to claim 4, Ryuichi teaches:
  - a. *Apparatus (Fig. 4).*
  - b. *For separating a selected element of selected elements from an array of inter-connected elements.* This limitation does not further limit the claim scope because it does not recite a particular structure (MPEP 2111.04).
  - c. *Including a first portion (Fig. 4, upper portion of collet [12]).*



- d. *Capable of removing or breaking the connection or connections between a selected element and its neighboring element or elements.* It has been held that a recitation of an element that is "capable of" performing a function is not a positive limitation but only requires the ability to so perform and does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.
  - e. *And a second portion (Fig. 4, lower portion tip of collet [12]).*
  - f. *Capable of picking up or otherwise removing the selected element or elements, wherein the connection or connections are electrically conductive.* It has been held that a recitation of an element that is "capable of" performing a function is not a positive limitation but only requires the ability to so perform and does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.
  - g. *And including means to break the connection or connections by passing a current therethrough.* This limitation is moot as per the above 112 6th interpretation.
10. As to claims 5 and 6, Ryuichi teaches the collet [12], which includes first and second portions, may apply a current **(Fig. 4B)**.
11. As to claims 7 and 8, these limitations are moot since they are part of the "capable of" recitations, which are not given patentable weight.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUBERR CHI whose telephone number is (571)270-3955. The examiner can normally be reached on 9-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571)272-1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SUBERR CHI/  
Examiner, Art Unit 2818

/DAVID VU/  
Primary Examiner, Art Unit 2818